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A computational experiment using a stochastic model of a meteor train

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Abstract

A computational experiment is carried out with a stochastic model of a meteor train. The Monte Carlo method is used to evaluate the statistical characteristics of the amplitude and phase distributions of a radio signal reflected from a meteor train, which is turbulized by a random wind in the process of its formation. Within the framework of the accepted wind model, it is shown that the signal, reflected from a meteor train, can be substantially modulated in a random way, both in amplitude and in phase. Therefore, it is advisable to use statistical methods in evaluating the parameters of the train and of the medium it interacts with.